PERIPHERAL EQUIPMENT & PARTS

T-PAD
Z-164A, Z-164B
DC to 1 GHz **DC to 200 MHz**

Z-164A

The Z-164A/B is used as a matching pad for applying the mixed output of two signal generators to the input terminal of a receiver for measuring two-signal characteristics (such as the blocking and intermodulation characteristic) of the receiver.

Specifications

Model	Z-164A	Z-164B
Frequency range	0 to 1000 MHz	0 to 200 MHz
Insertion loss	6±0.5 dB (voltage ratio)	
Impedance characteristics	50 Ω VSWR: ≤1.3 (up to 500 MHz) ≤1.5 (≥500 MHz)	75 Ω VSWR: ≤1.2 (up to 200 MHz)
Connector	N (S)-J	M-J
Operating temperature	0˚ to 45˚C	

Note: The maximum allowable power is 0.5 W

FOUR-PORT JUNCTION PAD
MP659A, MA1612A
40 MHz to 1 GHz **5 MHz to 3 GHz**

The MP659A and MA1612A are used as an impedance matching box applying the mixed output of three RF signal generators to a receiver input terminal for measurement of three-signal characteristics (such as receiver SINAD performance).

50 Ω ↔ 75 Ω IMPEDANCE TRANSFORMER
MP614A, MB-009
10 to 1200 MHz **DC to 2 GHz**

The MP614A is used over the range from 10 to 1200 MHz mainly for changing the impedance of a measuring signal source such as a signal generator. It is a transformer type, so that it has a smaller loss than a resistance attenuator type, and does not lower the signal source level. When the output level of a signal generator is shown in a power unit as in dBm, the output level after impedance transforming by the MP614A will have a value which is obtained by subtracting the insertion loss (dB) of the impedance transformer from the output level of the signal generator.
The MB-009 is constructed so that the central connector will not be damaged if 50 Ω N-type plug is connected by mistake to the 75 Ω side.

For product ordering information, see pages 4 – 10

CM DIRECTIONAL COUPLER
MP520 series
25 to 1700 MHz

This coupler is used in the measurement of fundamental frequency power and spurious power which supplies coaxial feeders in VHF and UHF bands. Various models are provided in accordance with feeder impedance and frequency. It is also capable of measuring the VSWR of antenna systems.

MP520A

DIRECTIONAL COUPLER
MP654A, MP655A
0.8 to 3 GHz **3.0 to 4.4 GHz**

The MP654A and MP655A are used to branch one part of the transmitted output for such measurements as those of fundamental wave and higher harmonic spurious characteristics using a spectrum analyzer. The MP654A is used for measuring personal radio transceivers and automobile telephones while the MP655A is used for measuring microwave band ratio equipment.

Specifications

Model	MP654A	MP655A
Frequency range	0.8 to 3 GHz	3 to 4.4 GHz
Impedance	50 Ω (N connector)	
Coupling	Approx. 30 dB*	
Input power (max.)	50 W	

*: Calibration data reattached

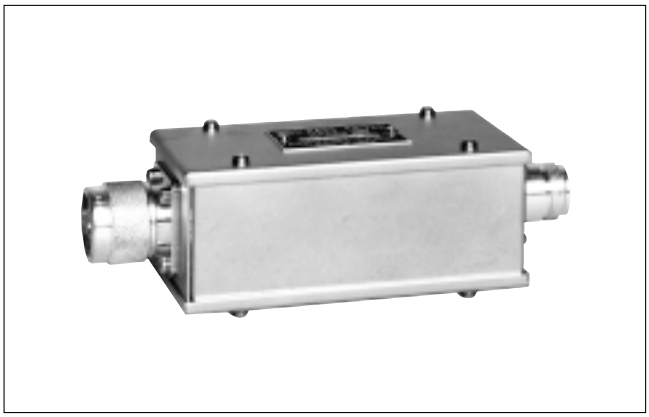
MP654A **MP655A**

Custom-made product

BRANCH
MP640A
DC to 1700 MHz

The MP640A is used for branching a part of the transmitted signal in measuring the spurious characteristics of a transmitter with a field strength meter or a spectrum analyzer. Its frequency characteristics of attenuation is flat over DC to 1700 MHz, so that it can be conveniently utilized for measurement without taking the frequency characteristic into consideration. The maximum allowable input power is 16 W.

HIGH-PASS FILTER
MP526 series
27/60/150/250/400 MHz bands

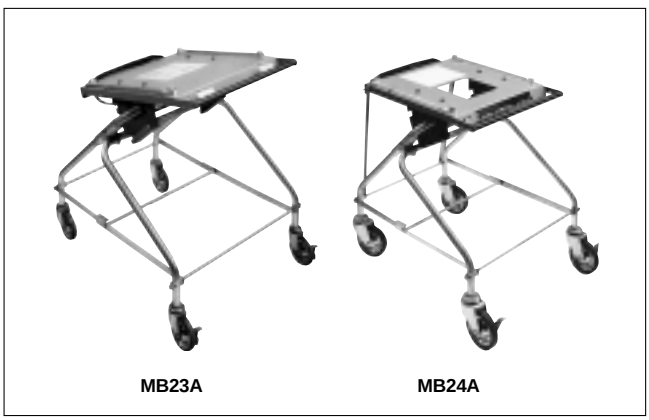


The MP526 series is for measuring the spurious characteristics with a field strength meter or a spectrum analyzer. Eliminating the fundamental signal by using a filter prevents the internal spurious of the field strength meter or spectrum analyzer due to an excessive input to facilitate measurement. A, B, C, D, and G are available to suit the five different frequency bands. The maximum allowable input level is +10 dBm.

FIXED ATTENUATOR FOR HIGH POWER MEASUREMENT

Order No.	Attenuation	Frequency range	Remarks
J0063	30 dB	DC to 12.4 GHz	N-type connector, permissible max. power 10 W (+40 dBm)
J0078	20 dB	DC to 18 GHz	
J0395	30 dB	DC to 8 GHz	N-type connector, permissible max. power 30 W (+44.7 dBm)

PORTABLE TEST RACK
MB23A, MB24A



MB23A **MB24A**

The MB23A and MB24A can be folded so they can be transported easily and used in places with space limitations. Metal fittings to accommodate both current and new cabinet designs are included.

MB23A
- By easy operation of the lever, the table can be inclined at five different angles for optimum instrument viewing ease.
- Thanks to Anritsu's exclusive construction, just a light touch of the lever is all it takes to move the angle safely up to 45˚.

MB24A
- The table is fixed in a horizontal position.
- Since the rack can support up to 100 kg, several instruments may be stacked.

For product ordering information, see pages 4 – 10

RF AMPLIFIER

For Amplifying High Speed Digital Signals

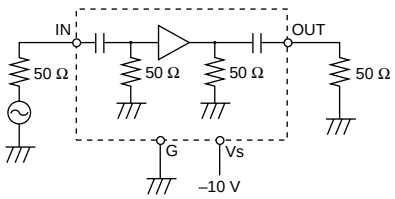
The A3H series comprises amplifiers which maintain flat gain and group delay characteristic in a wide band range up to 20 GHz, amplifying with great fidelity ultra high-speed pulse waveforms. It can be used for a variety of application fields including ultra wideband signal amplification, ultra high-speed pulse amplification, and measuring instruments pre-amplification.

Specifications (Typical values. For more details, ask for the separate catalog.)

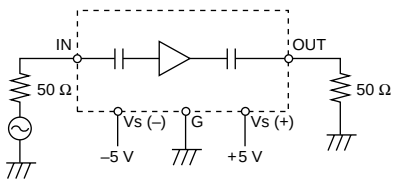
Model	Frequency range	Gain	Tr/Tf	Group delay (max.)	Overshoot (max.)	Output amplitude	NF	Remarks
A3H2200	100 kHz to 20 GHz	20 dB	20 ps	±100 ps	15%	1.2 V(p-p)	7 dB	For 20 GHz
A3H2150	100 kHz to 15 GHz	20 dB	23 ps	±100 ps	15%	1.5 V(p-p)	7 dB	For 15 GHz
A3H2120	100 kHz to 12 GHz	20 dB	30 ps	±100 ps	10%	1.5 V(p-p)	7 dB	For 12 GHz
A3HA2100	30 kHz to 10 GHz	20 dB	35 ps	±100 ps	10%	1.2 V(p-p)	7 dB	For 10 GHz, small size
A3HB3102	30 kHz to 10 GHz	28 dB	35 ps	±150 ps	10%	1.2 V(p-p)	4 dB	For 10 GHz, thin-type, low noise
A3H1001	100 kHz to 10 GHz	22 dB	35 ps	±100 ps	10%	1.5 V(p-p)	7 dB	For 10 GHz
A3H4080	100 kHz to 8 GHz	36 dB	50 ps	±100 ps	10%	1.4 V(p-p)	7 dB	For 8 GHz, high gain
A3H1002	100 kHz to 6 GHz	40 dB	58 ps	±100 ps	10%	1.5 V(p-p)	7 dB	For 6 GHz
A3H2051	DC to 5 GHz	20 dB	70 ps	±100 ps	10%	±0.6 V	7 dB	For DC to 5 GHz
A3H2030	100 kHz to 3 GHz	22 dB	117 ps	±100 ps	5%	1.3 V(p-p)	8.5 dB	For 3 GHz, low cost
A3H4030	100 kHz to 3 GHz	40 dB	117 ps	±100 ps	10%	1.3 V(p-p)	8.5 dB	For 3 GHz, high gain, low cost
A3H2121	DC to 12 GHz	20 dB	37 ps	±150 ps	10%	±0.6 V	7 dB	For DC to 12 GHz

Input/output schematic

• A3H2200

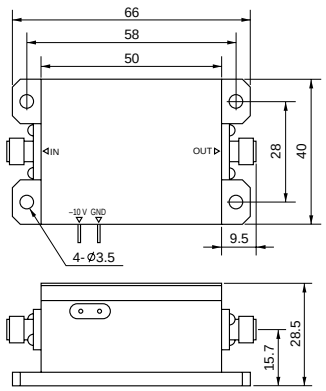


• A3HB3102



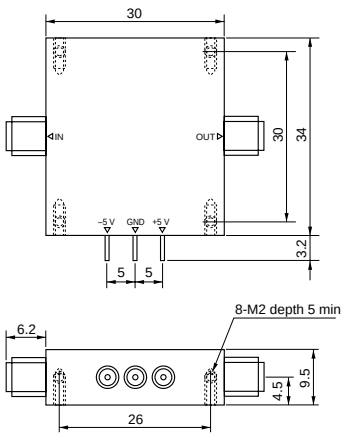
External dimensions diagram

• A3H2200



Applicable connector: SMA-type (units: mm)

• A3HB3102



Applicable connector: SMA-type (units: mm)

HIGH SPEED DRIVER

For Driving Optical Modulators

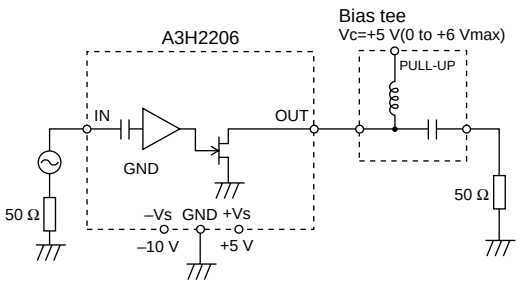
The A3HE2096 is a high-speed and high-output voltage swing driver. It performs 6 V(p-p) output voltage swing, and it can be used as a driver for optical LN modulators, thanks to the external control terminal for adjusting output voltage swing.

Specifications (Typical values. For more details, ask for the separate catalog.)

Model	Frequency range	Gain	Tr/Tf	Group delay (max.)	Output amplitude	Remarks
A3HC2107	30 kHz to 10 GHz	20 dB	35 ps	±100 ps	5 to 7.5 V(p-p)	For 10 Gb/s
A3H2206	30 kHz to 20 GHz	20 dB	30 ps	±150 ps	5 V(p-p)	For 20 Gb/s
A3HE2096	40 kHz to 9 GHz	23 dB	40 ps	±100 ps	4 to 6 V(p-p)	For 12 Gb/s

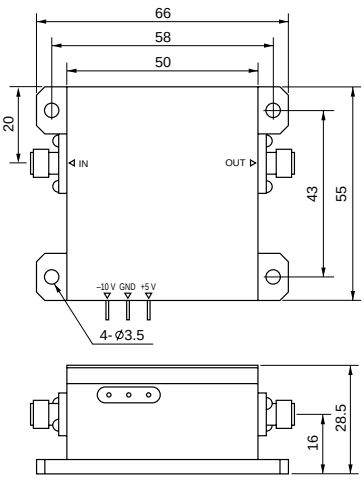
Input/output schematic

• A3H2206



External dimensions diagram

• A3H2206

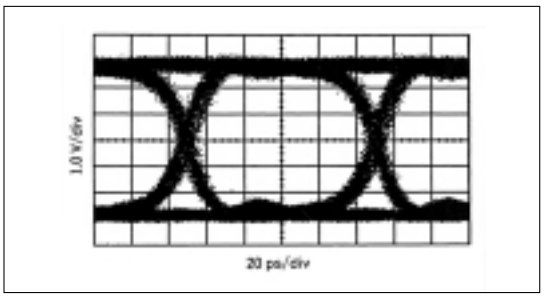


Applicable connector: APC3.5 (units: mm)

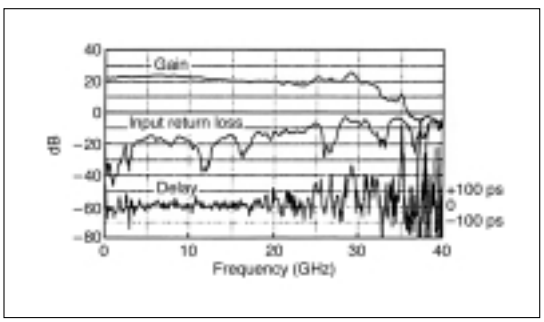
Characteristics example

• Pulse response (A3H2206)

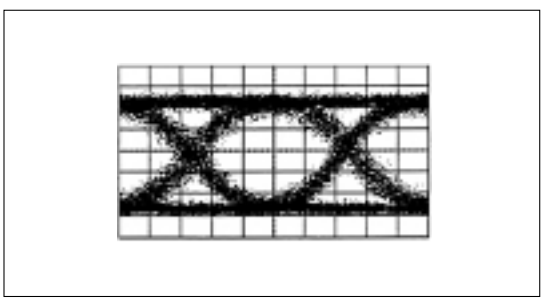
10 Gb/s NRZ pattern [input: 1.0 V(p-p)]



• Low signal frequency characteristic (A3H2206)



• 20 Gb/s optical modulation waveform (A3H2206)



For product ordering information, see pages 4 – 10

BESSEL FILTER
AF1000 series

For Improving Error Rate of Digital Signals

Due to the increases in capacity and longer distances resulting from use of optical fibers and wider bandwidths, digital communications are becoming more susceptible to noise. Elimination of noise in signals and improvement of error rate requires use of waveform-equalizing filters.

The flat group-delay characteristics of Bessel filters cause very little degradation of signal waveforms, making them ideal for attenuating out-of-band noise. Furthermore, the excellent I/O return loss characteristics of the AF1010 eliminate the need for an impedance matching pad.

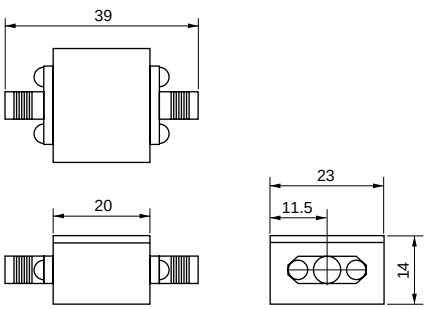
Specifications

Model	Degree	Cut-off frequency	Insertion loss fc/2 (dB)	Attenuation (dB)		Group delay deviation (ps)	Remarks
				2 fc	4 fc		
AF1003	5	2.5 to 5.9 GHz	0.7 ±0.3*1	14 ±2*2	>30*3	<45 (fc: 2.5 GHz) <30 (fc: 4 GHz)	SMA-F · SMA-F connector
AF1004		10 MHz to 2.4 GHz				<1000 (fc: 39 MHz) <60 (fc: 1.8 GHz)	
AF1008		6 to 12 GHz	0.7 ±0.5	14 ±3	>25	<20 (fc: –)	K-F · K-F connector
AF1010		1.7 to 7.5 GHz				<30 (fc: 4 GHz) <25 (fc: 7.5 GHz)	K-F · K-F connector, low-reflection type
AF1005	4	2.5 to 5.9 GHz	0.7 ±0.5	14 ±2*2	>30*3	<45 (fc: 2.5 GHz) <30 (fc: 4 GHz)	SMA-F · SMA-F connector
AF1007		10 MHz to 2.4 GHz	0.7 ±0.3			<1000 (fc: 39 MHz)*4 <60 (fc: 1.8 GHz)*4	

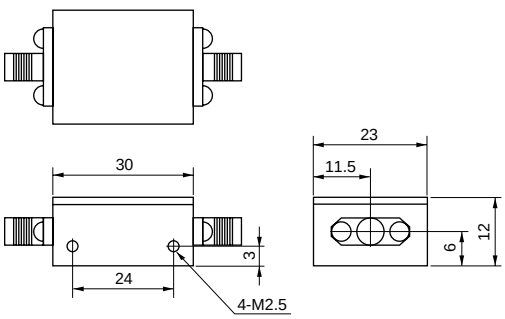
∗1: 0.7 dB ±0.5 dB (fc: ≥3.5 GHz)
∗2: 14 dB ±3 dB (fc: ≥3.5 GHz)
∗3: >25 dB (fc: ≥3.5 GHz)
∗4: Value corresponding to each fc

External dimensions diagram

• **AF1003, AF1005**



• **AF1004, AF1007**



PHASE SHIFTER
A5N1001, A5N1102
DC to 40 GHz **DC to 11 GHz**

For Phase Adjustment of Ultra High Speed Digital Circuits

A5N1001/A5N1102 are a mechanical delay line, and so is ideal for phase adjustment of ultra high-speed digital circuits.

Specifications

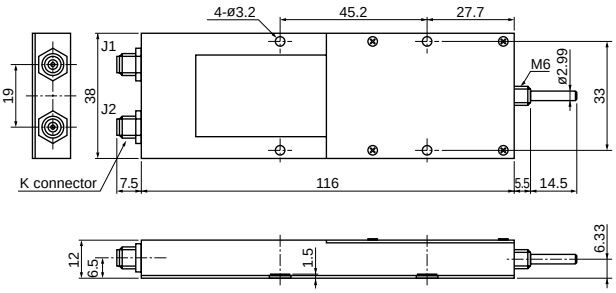
Model	A5N1001	A5N1102
Frequency range	DC to 40 GHz	DC to 11 GHz
Min. delay time	705 ps (typ)	320 ps (typ)
Max. delay time	845 ps (typ)	430 ps (typ)
Variable phase range	50˚/GHz (typ)	40˚/GHz (typ)
Return loss	≥12 dB (DC to 20 GHz) ≥10 dB (20 to 40 GHz)	≥15 dB (DC to 5 GHz) ≥12 dB (5 to 10 GHz) ≥11 dB (10 to 11 GHz)
Insertion loss	≤1.4 dB (DC to 20 GHz) ≤2.0 dB (20 to 40 GHz)	≤0.7 dB (DC to 5 GHz) ≤1.0 dB (5 to 10 GHz) ≤1.2 dB (10 to 11 GHz)
Adjustable angle	Approx. 16 turns	Approx. 98˚
Mass	Approx. 150 g	Approx. 25 g

Environmental conditions

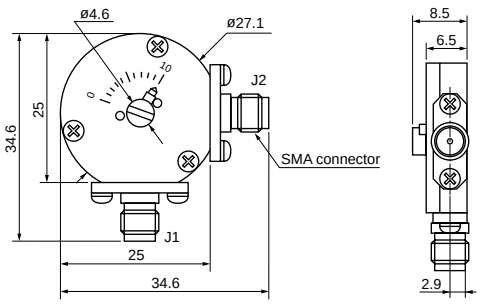
Model	A5N1001	A5N1102
Operating temperature	0˚ to +70˚C	–5˚ to +70˚C
Storage temperature	–10˚ to +75˚C	–20˚ to +75˚C
Vibration	10 to 55 Hz (full magnitude: 1.5 mm)	
Shock	490 m/s^2	

External dimensions diagram

• **A5N1001**



• **A5N1102**



For product ordering information, see pages 4 – 10

BIAS TEE
A3N1000 series
100 kHz to 20 GHz

For Supplying Bias to I/O Port

The Bias Tee is a device used for superimposing or extracting direct current component without affecting a high-frequency signal. When connected to output of an open-drain type amplifier, it can extract direct current component without any waveform deterioration.

Specifications

Model		A3N1001 to A3N1008			A3N1013 to A3N1016			A3N1017 to A3N1020			A3N1024 to A3N1027		
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.
Frequency		100 kHz	–	20 GHz	100 kHz	–	20 GHz	100 kHz	–	20 GHz	8 kHz	–	20 GHz
Insertion loss	100 kHz	–	2 dB	3 dB	–	2 dB	3 dB	–	2 dB	3 dB	–	2 dB (8 kHz)	3 dB (8 kHz)
	200 kHz	–	0.5 dB	–	–	0.5 dB	–	–	0.5 dB	–	–	–	–
	1 GHz	–	0.2 dB	–	–	0.2 dB	–	–	0.5 dB	–	–	0.5 dB	–
	10 GHz	–	1 dB	–	–	1 dB	–	–	1 dB	–	–	1 dB	–
	20 GHz	–	2 dB	3 dB	–	2 dB	3 dB	–	2 dB	3 dB	–	2 dB	3 dB
Return loss		12 dB	20 dB	–	12 dB	20 dB	–	11 dB	20 dB	–	10 dB	20 dB	–
Tr/Tf*1		–	18 ps	20 ps	–	18 ps	–	–	18 ps	–	–	18 ps	–
Connector		K			K			K			K		
Remarks		Standard type			Thin type (max. 9.5 mm)			Dual type			Wide band type		

∗1: $Tr/Tf = (Tm^2 - Ts^2 - Ti^2)^{1/2}$
Tm: value measured with oscilloscope, Ts: Tr/Tf of oscilloscope, Ti: Tr/Tf of signal source

Absolute maximum rating

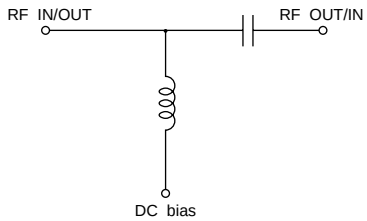
Max. bias voltage	±30 Vdc
Max. bias current	0.5 A*1, 0.2 A*2
Operating temperature	0˚ to 60˚C

∗1: A3N1001 to A3N1020, ∗2: A3N1024 to A3N1027

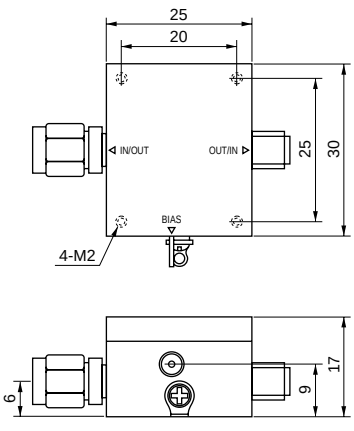
Connectors

Model	IN/OUT connector	OUT/IN connector	Bias connector
A3N1001	K (M)	K (F)	Pin-type
A3N1002	K (F)	K (M)	
A3N1003	K (F)	K (F)	
A3N1004	K (M)	K (M)	
A3N1005	K (M)	K (F)	SMA (F)
A3N1006	K (F)	K (M)	
A3N1007	K (F)	K (F)	
A3N1008	K (M)	K (M)	
A3N1013	K (M)	K (F)	Pin-type
A3N1014	K (F)	K (M)	
A3N1015	K (F)	K (F)	
A3N1016	K (M)	K (M)	
A3N1017	K (M)	K (F)	
A3N1018	K (F)	K (M)	
A3N1019	K (F)	K (F)	
A3N1020	K (M)	K (M)	
A3N1024	K (M)	K (F)	
A3N1025	K (F)	K (M)	
A3N1026	K (F)	K (F)	
A3N1027	K (M)	K (M)	

Circuit diagram



External dimensions diagram (A3N1001)

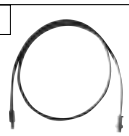
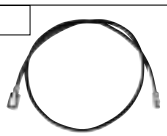


(Unit: mm)

COAXIAL CORDS, ADAPTERS

	Impedance	Figure No.	Name			Order No.
			Item	Composition (connector · cable · connector)	Length	
Connecting cords	50 Ω	1	Coaxial cord	N-P · 5D-2W · N-P	1 m 2 m	J0576B J0576D
		30	Coaxial cord	S-5DWP · 5D-2W · S-5DWP	1 m 2 m	J0025A J0025C
		2	Coaxial cord	3CA-P2 · TG-58A/U · 3CA-P2	1 m 2 m	J0133A J0133C
		3	Clip conversion pad	N-J · Clip		J0047
		4	Coaxial cord	3CA-P2 · TG-58A/U · Alligator clip	1 m	J0054A
	75 Ω	5	Coaxial cord	3CV-P2 · 3C-2V · 3CV-P2	1 m 2 m	J0026A J0081
		6	Coaxial cord	SP-3CP · 3C-2WS · SP-3CP	1 m 2 m	J0028A J0028B
		7	Coaxial cord	SP-3CP · 3C-2WS · 3CW-P	1 m 2 m	J0029A J0029B
		8	Coaxial cord	P-5CP · 5C-2W · P-5CP	1 m 2 m	J0030A J0030B
		9	Coaxial cord	M-P-3 · 3C-2V · 3CV-P2	1 m 2 m	J0027A J0027B
		10	Coaxial cord	M-P-5 · 5C-2V · M-P-5	1 m 2 m	J0031A J0031B
	(balanced)	11	Balanced cord	I-214APS · C1UUS shielded connecting cord · I-214APS	1 m 2 m	J0032 J0033
		12	Balanced cord	M-214S · Shielded connecting cord · M-214S	1 m	J0050A
		13	CS1-MM2 shielded connecting cord		2 m	J0034
Conversion connectors	50 Ω	14	Coaxial adapter	N-P · N-P	–	J0038
		15	Coaxial adapter	N-J · N-J	–	J0039
		16	Coaxial adapter	N-P · BNC-J	–	J0040
		17	Coaxial adapter	N-J · BNC-J	–	J0044
		18	Coaxial adapter	N-J · BNC-P	–	J0043
	–	19	Coaxial adapter	N-P · M-J		J0041
		20	Coaxial adapter	N-J · M-P	–	J0042
	75 Ω	21	Coaxial adapter	NC-P · SP-3CJ	–	J0046
		22	Coaxial adapter	NC-P · BNC-J	–	J0055
		23	Coaxial adapter	BNC-P · M-J	–	J0045
		24	Coaxial adapter	SP-3CJ · 3C-P (BNC-P)	–	J0053
		25	Coaxial adapter	SP-3CP · 3C-J (BNC-J)	–	J0052
U-link	75 Ω	26	MP529A U-Link		–	–
Coaxial T-connectors	50 Ω	27	Coaxial T-connector	S (N)-type	–	J0048
	70 Ω	28	Coaxial T-connector	M-type	–	J0049

For product ordering information, see pages 4 – 10

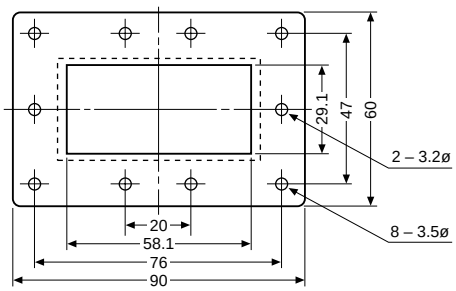
Order Number Item/Composition	J0576B/D 1  Coaxial cord 1 m/2 m N-P · 5D-2W · N-P	J0133A/C 2  Coaxial cord 1 m/2 m 3CA-P2 · RG-58A/U · 3CA-P2	J0047 3  Clip conversion pad, N-J · clip
J0054A 4  Coaxial cord 1 m 3CA-P2 · RG-58A/U · Alligator clip	J0026A J0081 5  Coaxial cord 1 m/2 m 3CV-P2 · 3C-2V · 3CV-P2	J0028A/B 6  Coaxial cord 1 m/2 m SP-3CP · 3C-2WS · SP-3CP	J0029A/B 7  Coaxial cord 1 m/2 m SP-3CP · 3C-2WS · 3CW-P
J0030A/B 8  Coaxial cord 1 m/2 m P-5CP · 5C-2W · P-5CP	J0027A/B 9  Coaxial cord 1 m/2 m M-P-3 · 3C-2V · 3CV-P2	J0031A/B 10  Coaxial cord 1 m/2 m M-P-5 · 5C-2V · M-P-5	J0032 J0033 11  Balanced cord 1 m/2 m I-214APS · C1UUS shielded connecting cord · I-214APS
J0050A 12  Balanced cord 1 m, M-214S · shielded connecting cord · M-214S (compatible with I-214APS)	J0034 13  CS1-MM2 shielded connecting cord, 2 m	J0038 14  Coaxial adapter N-P · N-P	J0039 15  Coaxial adapter N-J · N-J
J0040 16  Coaxial adapter N-P · BNC-P	J0044 17  Coaxial adapter N-J · BNC-J	J0043 18  Coaxial adapter N-J · BNC-P	J0041 19  Coaxial adapter N-P · M-J
J0042 20  Coaxial adapter N-J · M-P	J0046 21  Coaxial adapter NC-P · SP-3CJ	J0055 22  Coaxial adapter NC-P · BNC-J	J0045 23  Coaxial adapter BNC-P · M-J
J0053 24  Coaxial adapter SP-3CJ · 3C-P (BNC-P)	J0052 25  Coaxial adapter SP-3CP · 3C-J (BNC-J)	– 26  MP529A U-Link	J0048 27  Coaxial T-connector, 50 Ω, S (N) type
J0049 28  Coaxial T-connector, 75 Ω, M type	J0025A/C 29  Coaxial cord 1 m/2 m S-5DWP · 5D-2W · S-5DWP		

List of principal coaxial cables

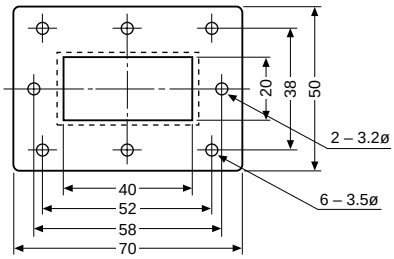
Coaxial cable	Characteristic impedance	Nominal attenuation (10 MHz)	Nominal capacitance	Finished diameter	Mass (g/m)	Suitable connector	Remarks
3C-2V	75 ±3 Ω (10 MHz)	0.042 dB/m	67 pF/m	5.8 mm	48	3C connector	Single outer conductor, PVC covered
3C-2W				6.5 mm	75		Double outer conductor, PVC covered
3C-2Z				3.8 mm	28	3C connector	Single outer conductor, No PVC covered
3C-2T		(0.013 dB/m, 1 MHz)		7.4 mm	110		Triple outer conductor, PVC covered
3C-2WS	75 ±1 Ω (10 MHz)	0.048 dB/m		6.6 mm	76	SP connector	Double outer conductor, PVC covered
5C-2V	75 ±3 Ω (10 MHz)	0.027 dB/m		7.8 mm	75	5A connector plug for 1 V type, connector for 1 V type	Single outer conductor, PVC covered
5C-2W				8.5 mm	110		Double outer conductor, PVC covered
5C-2Z				5.8 mm	48		Single outer conductor, No PVC covered
3D-2W	50 ±2 Ω (10 MHz)	0.047 dB/m	100 pF/m	6.4 mm	75		Double outer conductor, PVC covered
5D-2V		0.031 dB/m		7.5 mm	85	S connector	Single outer conductor, PVC covered
5D-2W				8.2 mm	120		Double outer conductor, PVC covered
RG-55/U	53.5 ±2.5 Ω (4 MHz)	0.0328 dBm	93.5 pF/m	5.25 mm	55	BNC	Double outer conductor, PE covered
RG-58/U				4.95 mm	50	BNC, N	Single outer conductor, PVC covered
RG-58A/U	50 ±2 Ω (10 MHz)	0.0427 dB/m					

Dimensions of waveguide flanges

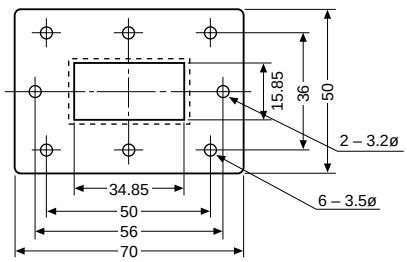
BRJ-4 (3.30 to 4.90 GHz)



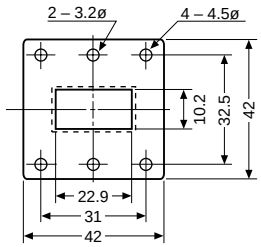
BRJ-6 (4.90 to 7.05 GHz)



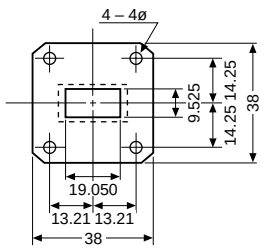
BRJ-7 (5.85 to 8.20 GHz)



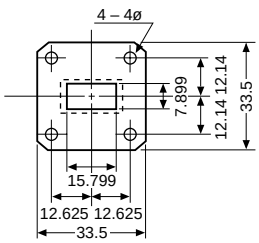
BRJ-10 (8.20 to 12.40 GHz)



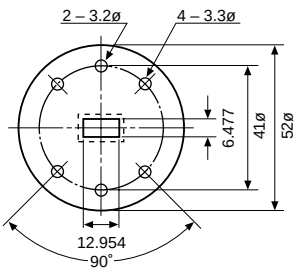
BRJ-120 (9.84 to 15.0 GHz)



BRJ-140 (11.9 to 18.0 GHz)



BRJ-18 (14.5 to 22.0 GHz)



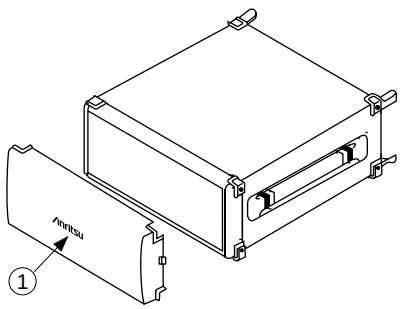
(Unit: mm)

For product ordering information, see pages 4 – 10

ACCESSORIES FOR F-SERIES CABINETS

Anritsu's F-series cabinet was designed using basic dimensions that conform to EIA and IEC racking specifications, permitting compatible equipment to be easily stacked up to form a system, or to be mounted on the EIA/IEC standard rack.
The accessories of the F-series cabinet are easy to mount and use, and blend with the design of the cabinet. The F-series can be identified by its green feet.

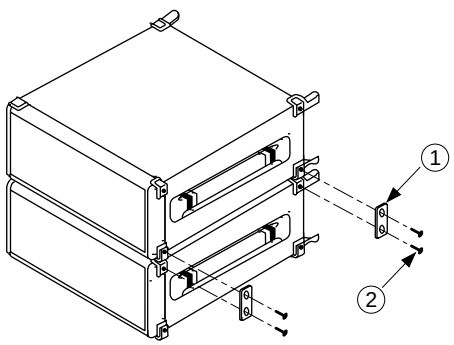
• Protective cover
Protects front of cabinet



No.	Description	Quantity
①	Protective cover	1

Item	Order No.
Protective cover 1MW2U	B0329A
Protective cover 1MW3U	B0329B
Protective cover 1MW4U	B0329C
Protective cover 1MW5U	B0329D
Protective cover 3/4MW3U	B0329F
Protective cover 3/4MW4U	B0329G
Protective cover 2/3MW4U	B0329K
Protective cover 1/2MW2U	B0329L

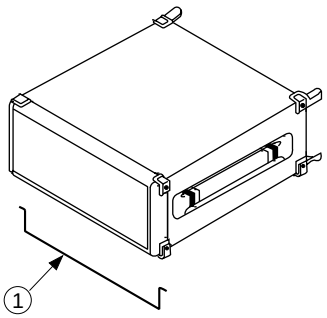
• Coupler
To mount two or more F-series cabinet in a stack



No.	Description	Quantity
①	Coupler	4
②	Screw	8

Item	Order No.
Coupler	B0332

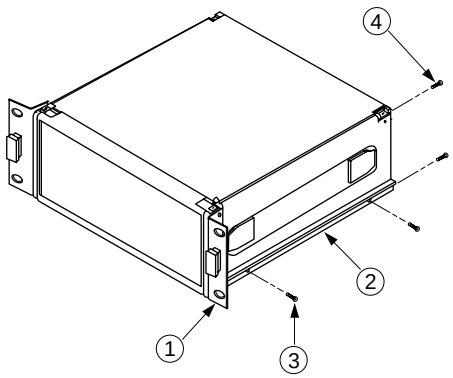
• Tilt stand
Allows cabinet to be used at an angle



No.	Description	Quantity
①	–	1

Item	Order No.
Tilt stand 1MW450D	B0330A
Tilt stand 3/4MW450D	B0330B
Tilt stand 3/4MW350D	B0330C
Tilt stand 2/3MW350D	B0330D

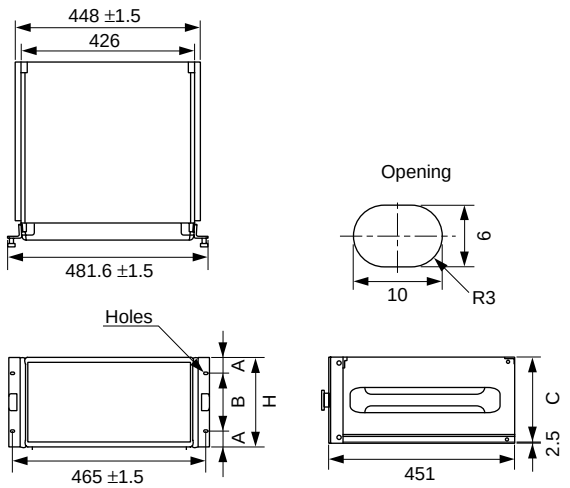
• Rack mount kit
The rack mount accessory is for use with 1MW450D cabinet.
For EIA/IEC standard rack



No.	Description	Quantity
①	Rack flange	2
②	Side rail	2
③	5NPS25S7 + SW	2
④	4NPS6S7 + SW	4

Item	Order No.
Rack mount kit 2U	B0333A
Rack mount kit 3U	B0333B
Rack mount kit 4U	B0333C
Rack mount kit 5U	B0333D

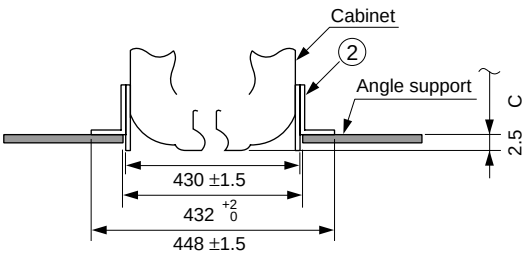
• F-series cabinet rack mount dimensions



Unit: mm

Cabinet height	H	A	B	C
2U	88	5.9	76.2	85.5
3U	132.5	37.7	57.1	130
4U	177	37.7	101.6	174.5
5U	221.5	37.7	146.1	219

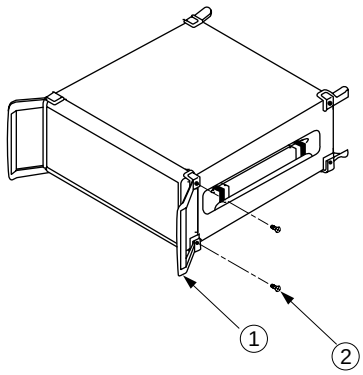
• Cabinet angle support dimensions



Note: Merely attaching the equipment to the rack with rack mount kit does not provide enough support. Use either angle supports or shelves to provide the necessary support.

• Front handle

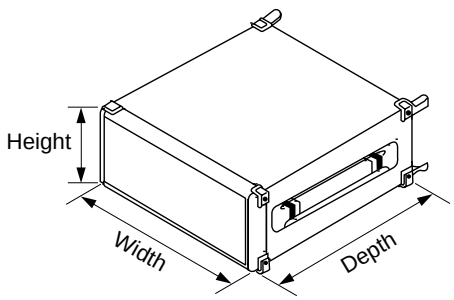
Protects the front section



No.	Description	Quantity
①	Front handle	2
②	Screw	4

Item	Order No.
Front handle 2U	B0331A
Front handle 3U	B0331B
Front handle 4U	B0331C
Front handle 5U	B0331D

• Symbol and dimensions of F-series cabinet



Height

Symbol	Dimension (mm)
2U	88
3U	132.5
4U	177
5U	221.5
6U	266

Width

Symbol	Dimension (mm)
1MW	426
3/4MW	320
2/3MW	284
1/2MW	213

Depth

Symbol	Dimension (mm)
250D	251
350D	351
450D	451

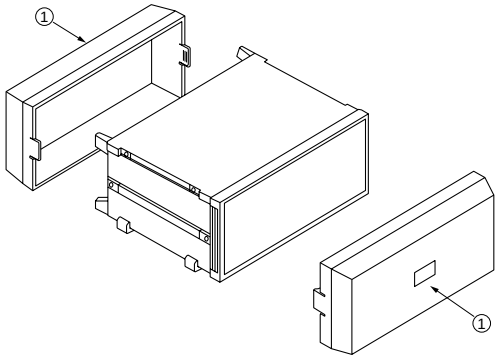
Note: knobs, handles, and feet are not included in cabinet external dimensions.

For product ordering information, see pages 4 – 10

ACCESSORIES FOR E-SERIES CABINETS

Anritsu's E-series cabinet was designed using basic dimensions that conform to EIA and IEC racking specifications, permitting compatible equipment to be easily stacked up to form a system, or to be mounted on the EIA/IEC standard rack. Featuring a balanced design, the E-series cabinet accessories provide ease of mounting and use. The E-series cabinet can be identified by the four silver metal sections between its top and side surfaces.

• Front/rear cover

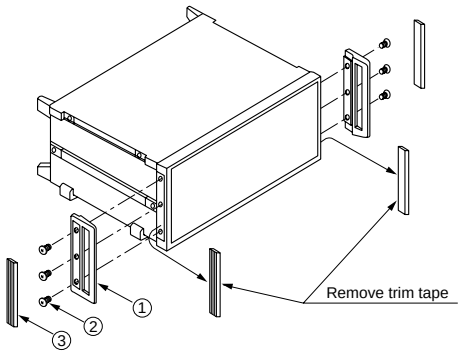


Protects front and back of cabinet.
Due to projections, the rear cover may not be usable with some equipment. Front handles and front cover cannot be used simultaneously.

No.	Description	Quantity
①	Front/rear cover	1

Item	Order No.
Front/rear cover 1MW2U	B0018
Front/rear cover 1MW3U	B0019
Front/rear cover 1MW4U	B0020
Front/rear cover 1MW5U	B0021
Front/rear cover 1MW6U	B0022
Front/rear cover 2/3MW2U	B0023
Front/rear cover 2/3MW3U	B0024
Front/rear cover 2/3MW4U	B0025
Front/rear cover 1/2MW2U	B0026
Front/rear cover 1/2MW3U	B0027

• Front handle kit



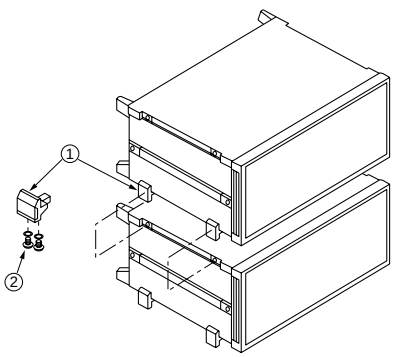
Front cover cannot be used.

No.	Description		Quantity
①	Front handle		2
②	Screw	2U to 3U*1	4
		4U to 6U	6
③	Trim tape		2

*1: Denotes height of cabinet

Item	Order No.
Front handle kit 2U	B0036
Front handle kit 3U	B0037
Front handle kit 4U	B0038
Front handle kit 5U	B0039
Front handle kit 6U	B0040

• Stacking foot



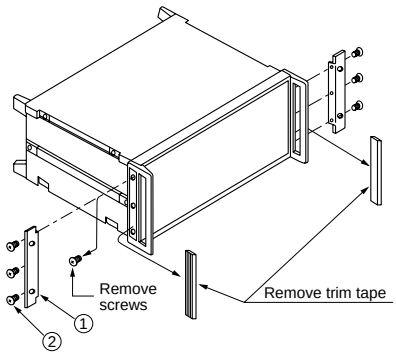
These one-touch lock feet replace the standard molded feet for use when stacking equipment of the same width and depth, and when mounting the equipment on a portable test rack.

No.	Description	Quantity
①	Stacking foot	4
②	Screw	8

Item	Order No.
Stacking feet	B0029

Note: By replacing the standard molded feet with stacking feet (B0029), the 1MW cabinet can be used with Anritsu's portable test racks MB23A and MB24B.

• Rack flange kit



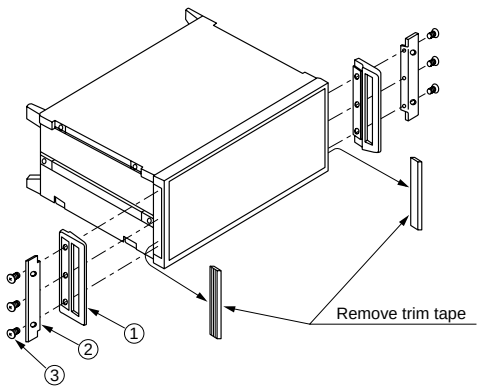
The rack mount accessory is for use with equipment having 1MW cabinet width providing front handles.

No.	Description		Quantity
①	Rack flange		2
②	Screw	2U to 3U	4
		4U to 6U	6

Item	Order No.
Rack flange kit 2U	B0046
Rack flange kit 3U	B0047
Rack flange kit 4U	B0048
Rack flange kit 5U	B0049
Rack flange kit 6U	B0050

Note: • For 1MW cabinets
• When assembled, the panel width is suitable for 19-inch racks.
• For EIA/IEC standard rack

• Rack mount kit



The rack mount accessory is for use with equipment having 1MW cabinet width.

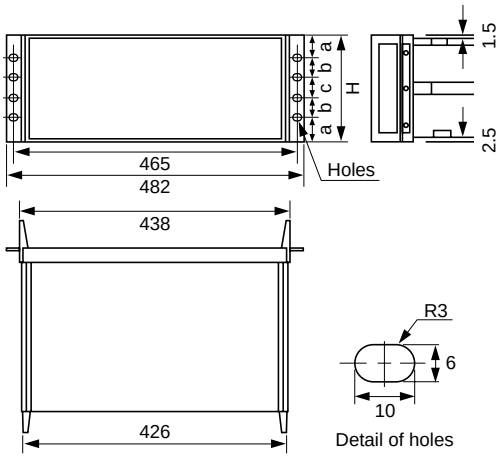
Note: Merely attaching the equipment to the rack with rack mount kit does not provide enough support. Use either angle supports or shelves to provide the necessary support.

No.	Description		Quantity
①	Front handle		2
②	Rack flange		2
③	Screw	2U to 3U	4
		4U to 6U	6

Item	Order No.
Rack mount kit 2U	B0041
Rack mount kit 3U	B0042
Rack mount kit 4U	B0043
Rack mount kit 5U	B0044
Rack mount kit 6U	B0045

Note: • For 1MW cabinets
• When assembled, the panel width is suitable for 19-inch racks.
• For EIA/IEC standard rack

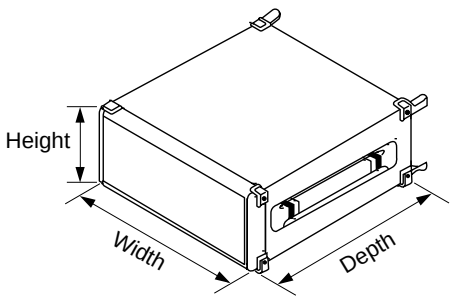
• E-series cabinet rack mount dimensions



Cabinet height	H (mm)	a	b	c
2U	88	5.9	–	76.2
3U	132.5	37.7	–	57.1
4U	177	37.7	–	101.6
5U	221.5	37.7	–	146.1
6U	266	37.7	57.1	76.2

Note: This space provides room to attach a flange for supporting the equipment

• Symbol and dimensions of E-series cabinet



Height

Symbol	Dimension (mm)
2U	88
3U	132.5
4U	177
5U	221.5
6U	266

Width

Symbol	Dimension (mm)
1MW	426
3/4MW	320
2/3MW	284
1/2MW	213

Depth

Symbol	Dimension (mm)
250D	251
350D	351
450D	451

Note: knobs, handles, and feet are not included in cabinet external dimensions.

For product ordering information, see pages 4 – 10

Quality and Reliability Assurance System

ISO9000/14000

Measurement solutions products contained in this catalogue are manufactured under a quality system and environment management system in conformance to the ISO international standard.

Factory name	Conformed standard	Qualification number	Qualified date	Qualification organization
Atsugi factory	ISO9001	JQA-0316	Nov. 15, 1993	Japan Quality Assurance Organization (JQA)
	ISO14001	JQA-EM0210	Aug. 28, 1998	
Tohoku Anritsu	ISO9002	JQA-0737	Dec. 28, 1994	
	ISO14001	JQA-EM0560	Oct. 22, 1999	
England factory	ISO9001	FS22679	May 24, 1999	BSI Quality Assurance
	ISO14001	EMS54120	Mar. 15, 2000	
U.S.A factory	ISO9001	6495	Apr. 17, 2001	The Seal of National Quality Assurance Limited

Quality and Reliability Assurance for Products

• Planning stage

Management resources are focused on measuring instruments related to growing fields such as mobile Internet, WDM and digital broadcasting, ATE and device businesses. New products are planned to provide solutions whenever required by users.

• Design stage

To realize a design with high-safety and high-reliability, several levels of design assessments are performed. Power consumption is reduced from the viewpoint of product assessment, starting with evaluation of specifications, legal regulations and used parts. Evaluations are also implemented for improving the recycling ratio and so forth, and the design quality is improved.
Anritsu engages a design that targets customer satisfaction.

• Evaluation stage

In addition to safety, reliability and environment considerations of test models for the new product, functions and performance are verified by an environment test and operability, uncertainty, maintainability and flexibility of design are evaluated fully. After passing these tests, the products can be commercialized.

• Manufacturing and inspection stages

Based on our policy, “post-processing is the customer”, the product is manufactured by experienced employees according to the work standards. In the adjustment and inspection stage, automatic measurement is promoted. An expert will be in charge of the adjustment if high-skilled adjustment is required.

• After sold

In each service department, traceability assurance by calibrations based on high-technical capabilities , as well as rapid repair and preventive maintenance are performed.

Parts standardization and improving activities for quality and reliability

For parts generally used in each measuring instrument, quality improvement and standardization are actively promoted. All field data are analyzed, arranged and completely made known to each department while required actions are taken for reliability improvement. In addition, failure rate, MTBF observation and parts failure rate are calculated based on this information.

Traceability assurance

As defined in the International Vocabulary of Basic and General Terms in Metrology (VIM; 1993), traceability is defined as "the property of the result of a measurement or the value of a standard whereby it can be related to stated references, usually national or international standards, through an unbroken chain of comparisons all having stated uncertainties." Anritsu's system to ensure traceability is shown below. Measurements made by Anritsu's laboratory's are traceable to national, international, or intrinsic standards, where such standards are available.