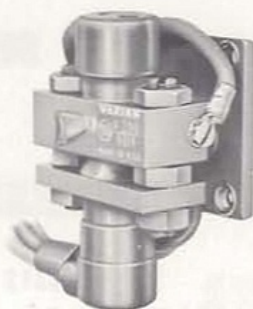




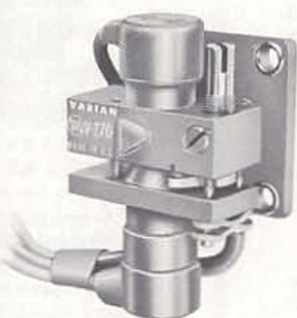
X-26
VA-113
VA-114
VA-115



V-58
V-58C
V-157
V-260
V-262
V-53B



V-290
V-54
V-55B



V-153
V-270
VA-6915



V-55
V-154

These reflex klystrons are gap-tuned tubes, employ single screw or lock nut type of tuning, and are furnished with either molded silicone rubber leads or with bases for plug-type connectors. All tubes illustrated have found wide application as radar local oscillators, in signal generator and laboratory service, and are

rugged, dependable and suited to these uses. However, since newer designs offer superior performance characteristics and are to be preferred for new equipment designs, the tubes listed on pages 14 and 15 are now considered to be primarily for replacement purposes.

C-BAND OSCILLATOR

X-26 Series 5.3 to 7.5 kMc

- Long Life
- Low Distortion
- Controlled Impedance Characteristics
- Uniform Performance
- Waveguide Output

These well-known reflex klystrons are widely used as transmitters and local oscillators in microwave relay systems. They are also particularly suited for laboratory testing and for use as signal sources in test equipment. Conveniently tuned with single screw tuner. RF output mates with UG-344/U flange.

CHARACTERISTICS X-26E:

Frequency.....	5.3		6.6		kMc
	Min.	Avg.	Min.	Avg.	
Power Output.....	25	50	700	1650	mW
Beam Voltage.....	—	300	—	750	Vdc
Beam Current.....	—	19	—	70	mAdc
Reflector Voltage.....	-95	-140	-320	-400	Vdc
Bandwidth.....	15	24	28	48	Mc

MECHANICAL TUNING RANGE:

5.300-6.300 kMc	X-26F
5.300-6.600 kMc	X-26E
5.800-7.125 kMc	X-26D
6.300-7.500 kMc	X-26B

C-BAND OSCILLATORS

VA-113	5.925 to 6.575 kMc
VA-114	6.575 to 7.175 kMc
VA-115	7.175 to 7.725 kMc

The Varian VA-113, VA-114 and VA-115 are very long life reflex klystrons, intended for use as a source of C-band rf power in signal generators and other test and measurement equipment. The three klystrons in the series together cover the microwave spectrum between 5925 to 7725 Mc. Contact surfaces are provided on each end of the tube to facilitate attaching metal sleeves for housing rf filters. Physical appearance same as type X-26 series. Electrical characteristics have been optimized for signal generator service.

X-BAND OSCILLATOR

V-55 8.2 to 11.5 kMc

A ruggedized lock nut tuned wide band reflex klystron oscillator for use in low power fixed frequency transmitters or as a reliable local oscillator. Has built-in matching structure for maximum power into a matched load.

CHARACTERISTICS:

Frequency.....	8.2		11.5		kMc
	Min.	Avg.	Min.	Avg.	
Power Output.....	300	405	100	330	mW
Beam Voltage.....	—	500	—	500	Vdc
Beam Current.....	—	60	—	58	mAdc
Reflector Voltage.....	-130	-155	—	-280	Vdc
Bandwidth.....	40	60	—	45	Mc

This tube is also manufactured by Varian Associates of Canada, Ltd.

The Above Products Are Manufactured by Varian Associates Palo Alto, California

REFLEX KLYSTRONS

PRIMARYLY FOR
REPLACEMENT
PURPOSES

X-BAND OSCILLATORS

V-55B

8.2 to 11.5 kMc

Identical to V-55 but with molded silicone rubber leads for high-altitude operation.

This tube is also manufactured by Varian Associates of Canada, Ltd.

V-58C

8.5 to 10.0 kMc

This reflex klystron oscillator has a built-in matching transformer and provides maximum power into a matched load. It is provided with a single shaft tuner with low tuning rate and is easily adaptable to linear reflector voltage tracking. This tube is excellent for system applications and laboratory testing. Has gold-plated surfaces for attachment of rf shields.

CHARACTERISTICS:

Frequency.....	8.5		9.3		10.0		kMc
	Min.	Avg.	Min.	Avg.	Min.	Avg.	
Power.....	500	550	650	750			mW
Beam Voltage.....	—	500	500	500			Vdc
Beam Current.....	—	60	60	60			mAdc
Reflector Voltage.....	-200	-260	-320	-425			Vdc
Bandwidth.....	—	50	50	45			Mc

This tube is also manufactured by Varian Associates of Canada, Ltd.

V-58

8.5 to 10.0 kMc

The V-58 is similar to the V-58C except for an additional lower reflector voltage mode specification, and does not have the gold-plated surfaces.

This tube is also manufactured by Varian Associates of Canada, Ltd.

V-153/6315

8.5 to 10.0 kMc

The V-153 is a reflex klystron designed for improved operation at low resonator voltages. The single screw tuner provides ease of tuning and is easily reset.

CHARACTERISTICS:

Frequency.....	8.5		10.0		kMc
	Min.	Avg.	Min.	Avg.	
Power Output.....	10	60	30	90	mW
Beam Voltage.....	—	250	—	250	Vdc
Beam Current.....	—	30	—	30	mAdc
Reflector Voltage.....	-15	-60	-70	-120	Vdc
Bandwidth.....	43	55	43	55	Mc

This tube is also manufactured by Varian Associates of Canada, Ltd.

V-157

8.5 to 10.0 kMc

A special X-band reflex klystron oscillator with electrical characteristics similar to the V-153/6315 but with 3-pin base.

For new equipment design, the VA-201B or the VA-203B is recommended.

This tube is also manufactured by Varian Associates of Canada, Ltd.

V-260/6310

8.5 to 10.0 kMc

A conveniently tuned reflex klystron oscillator used in radar local oscillator, signal generator, and laboratory applications.

For new equipment design, the VA-201B or the VA-203B is recommended.

CHARACTERISTICS:

Frequency.....	8.5		10.0		kMc
	Min.	Avg.	Min.	Avg.	
Power Output.....	25	60	25	90	mW
Beam Voltage.....	—	300	—	300	Vdc
Beam Current.....	—	25	—	24	mAdc
Reflector Voltage.....	-85	-105	-160	-185	Vdc
Bandwidth.....	30	60	30	45	Mc

This tube is also manufactured by Varian Associates of Canada, Ltd.

X-BAND OSCILLATORS

V-262

8.5 to 10.0 kMc

Reflex klystron oscillator, similar to V-260/6310 but with gold-plated surfaces for attachment of rf shields. Used primarily in signal generators.

This tube is also manufactured by Varian Associates of Canada, Ltd.

V-270/6312

8.5 to 10.0 kMc

A versatile reflex klystron oscillator used principally in radar local oscillator applications. Electrically same as the V-260/6310 klystron. VA-6915 identical to V-270/6312 with addition of Viking connector.

This tube is also manufactured by Varian Associates of Canada, Ltd.

V-290/6314

8.5 to 10.5 kMc

A rugged lock nut tuned reflex klystron oscillator intended for use in fixed frequency applications.

For new system designs, the VA-217C or VA-210B are recommended.

CHARACTERISTICS:

Frequency.....	8.5		10.0		kMc
	Min.	Avg.	Min.	Avg.	
Power Output.....	50	110	100	210	mW
Beam Voltage.....	—	350	—	350	Vdc
Beam Current.....	—	45	—	45	mAdc
Reflector Voltage.....	-85	-105	-170	-190	Vdc
Bandwidth.....	40	80	40	70	Mc

This tube is also manufactured by Varian Associates of Canada, Ltd.

V-54

10.5 to 12.2 kMc

The V-54 reflex klystron was designed for local oscillator or low power transmitter use in fixed frequency applications. It

provides an average matched power output of 200 mW with only 400 volts resonator voltage.

CHARACTERISTICS:

Frequency.....	10.5		12.2		kMc
	Min.	Avg.	Min.	Avg.	
Power Output.....	50	140	150	320	mW
Beam Voltage.....	—	400	—	400	Vdc
Beam Current.....	—	50	—	48	mAdc
Reflector Voltage.....	-120	-165	-270	-285	Vdc
Bandwidth.....	30	65	30	45	Mc

This tube is also manufactured by Varian Associates of Canada, Ltd.

V-154

10.5 to 12.2 kMc

The V-154 is a stable, lock nut tuned reflex klystron for use in low power fixed frequency transmitter applications.

CHARACTERISTICS:

Frequency.....	10.5		12.2		kMc
	Min.	Avg.	Min.	Avg.	
Power Output.....	50	140	150	290	mW
Beam Voltage.....	—	400	—	400	Vdc
Beam Current.....	—	50	—	49	mAdc
Reflector Voltage.....	-120	-165	-270	-280	Vdc
Bandwidth.....	30	60	30	38	Mc

This tube is also manufactured by Varian Associates of Canada, Ltd.

V-53B

10.7 to 11.7 kMc

The V-53B was designed for local oscillator or low power transmitter applications in the 10.7 to 11.7 kMc common carrier band.

CHARACTERISTICS:

Frequency.....	10.7		11.7		kMc
	Min.	Avg.	Min.	Avg.	
Power Output.....	25	55	25	85	mW
Beam Voltage.....	—	300	—	300	Vdc
Beam Current.....	—	27	—	27	mAdc
Reflector Voltage.....	-100	-140	-150	-190	Vdc
Bandwidth.....	25	50	25	40	Mc

This tube is also manufactured by Varian Associates of Canada, Ltd.

The Above Products Are Manufactured by Varian Associates Palo Alto, California