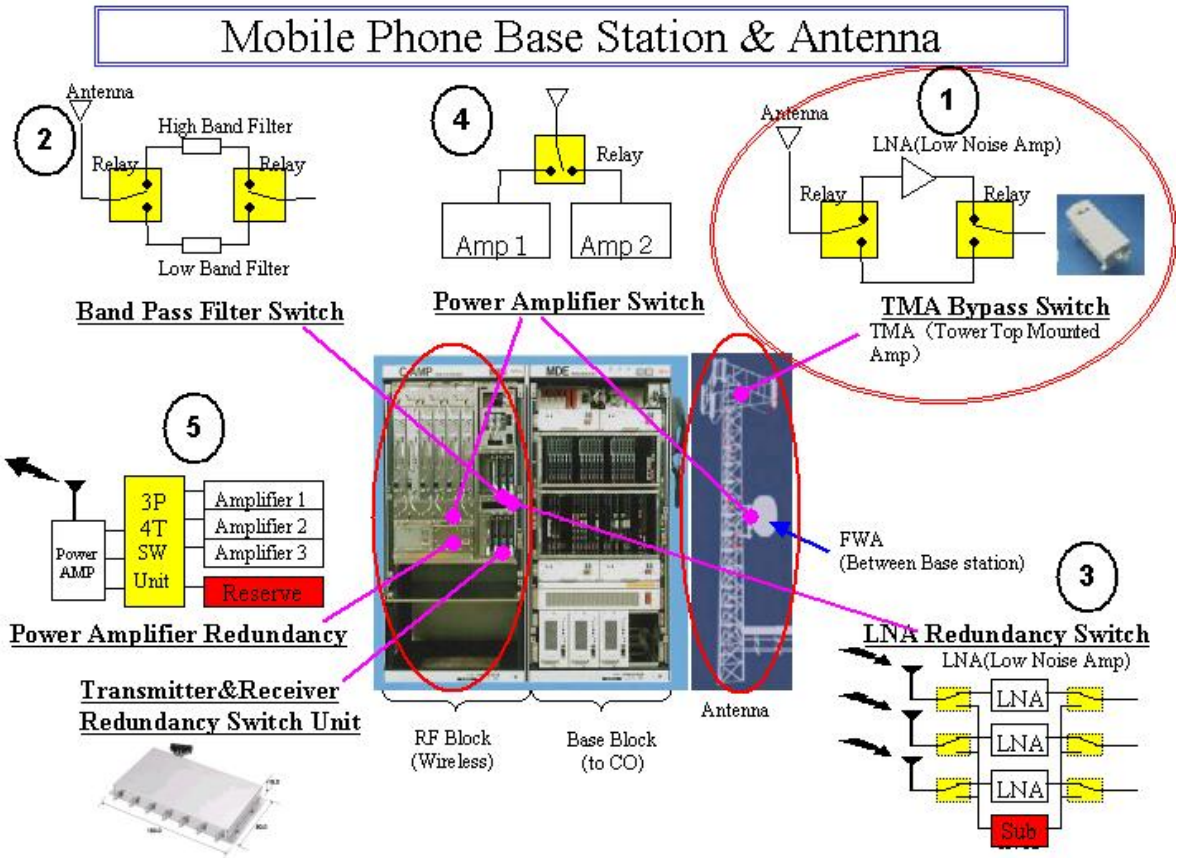
OMRON ELECTRONIC COMPONENTS LLC
PRODUCT, MARKETING, AND BUSINESS NEWS

MARKETING UPDATE

NO: RL-116 **PRODUCT:** G9YA HF Switching Relay
DATE: August 2005 **TYPE:** Application Note

G9YA Coaxial HF Relays Ideal for Mobile Communications Infrastructure Applications

Omron's new G9YA relay is ideal for attenuator and amplifier switching for Mobile Communications Base Stations, Broadcasting **&** CATV Infrastructure equipment, and Test and Measurement equipment. **The** applications within a Mobile Communications Base Station are shown below:



(1) Tower Mounted Amplifier (TMA) Switching

Isolation (26.5GHz)	Application Requirements	Application Description	Omron Advantages vs. Semiconductor Components
65 dB	The Bypass Amplifier (Low Noise Amplifier) is mounted on top of the antenna tower. The Tower Mounted Amp (TMA) is mounted with the Transceiver and Receiver units.	Transmission high power switching	If the power supply is shut down, no signal is transmitted; HFR can still transmit a signal even if relay is not energized. Insertion loss is much lower than IC components. High-performance IC components are very expensive.

* **Red** values represent a **superior** advantage against the competition.

(2) Band Pass Filter Switching and
(3) LNA (Low Noise Amplifier) Switching

Isolation (26.5GHz)	Application Requirements	Application Description	Omron Advantages vs. Semiconductor Components
65 dB	The Band Pass Filter and LNA are located within the Base Station Equipment house.	Transmission high power switching	If the power supply is shut down, no signal is transmitted; HFR can still transmit a signal even if relay is not energized. Insertion loss is much lower than IC components. High-performance IC components are very expensive.

*** Red** values represent a **superior** advantage against the competition.

(4) Power Amplifier Switching and
(5) Power Amplifier Redundancy Switching

Max. Carry Power	Application Requirements	Application Description	Omron Advantages vs. Semiconductor Components
120 W	The relay must have high power switching and carrying capability	The relay switches (and carries) a power amplifier	Semiconductors do not have the switching or carrying capability of a coax relay.

*** Red** values represent a **superior** advantage against the competition.

Key Specifications

- The relay is SPDT (1-Form-C) and has an option for indicator terminals.
- Carries up to 120 W of power while operating within an ambient temperature range of -55°C to +85°C.
- Guarantees minimum isolation characteristics of 60 to 85dB, insertion loss of 0.2 to 0.8dB and a maximum V.S.W.R. of 1.1 to 1.7 between its lower and upper bandwidth of 0 to 26.5 GHz.

High frequency characteristics	Frequency (GHz)	0-1	1-4	4-8	8-12	12-18	18-26.5
	Isolation dB (Min.)	85	80	70	65	60	
	Insertion loss dB (Max.)	0.2		0.3	0.4	0.5	0.8
	V.S.W.R. (Max.)	1.1	1.15	1.25	1.35	1.5	1.7

- At 700 mW (Failsafe) and 500 mW (Dual Coil Latching and TTL-Driven Dual Coil Latching), the G9YA has the lowest power consumption on the market.
- The relay is available in Failsafe, Dual Coil Latching and TTL-driven dual coil latching models with Solder Terminals, Pin Terminals and Connector Cables.